UNITED STATES
**NUCLEAR REGULATORY COMMISSION**
REGION III
2443 WARRENVILLE ROAD, SUITE 210
LISLE, IL 60532-4352

July 23, 2010

Mr. Barry Allen
Site Vice President
FirstEnergy Nuclear Operating Company
Davis-Besse Nuclear Power Station
5501 North State Route 2, Mail Stop A-DB-3080
Oak Harbor, OH 43449-9760

SUBJECT: DAVIS-BESSE NUCLEAR POWER STATION INTEGRATED INSPECTION REPORT 05000346/2010-003

Dear Mr. Allen:

On June 30, 2010, the U.S. Nuclear Regulatory Commission (NRC) completed an integrated inspection at your Davis-Besse Nuclear Power Station. The enclosed inspection report documents the inspection findings, which were discussed on July 13, 2010, with you and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection, one NRC-identified finding of very low safety significance was identified. The finding involved a violation of NRC requirements. However, because of the very low safety significance, and because the issue was entered into your corrective action program, the NRC is treating the issue as a non-cited violation (NCV) in accordance with Section VI.A.1 of the NRC Enforcement Policy. Additionally, a licensee-identified violation is listed in Section 4OA7 of this report.

If you contest the subject or severity of a Non-Cited Violation, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission - Region III, 2443 Warrenville Road, Suite 210, Lisle, IL 60532-4352; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the Resident Inspector Office at the Davis-Besse Nuclear Power Station. In addition, if you disagree with the cross-cutting aspect assigned to any finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region III, and the NRC Resident Inspector at the Davis-Besse Nuclear Power Station.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records System (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Website at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

**/RA/**

Jamnes L. Cameron Chief
Branch 6
Division of Reactor Projects

Docket No. 50-346
License No. NPF-3

Enclosure: Inspection Report 05000346/2010-003
w/Attachment: Supplemental Information

cc w/encl: Distribution via ListServ

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

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| Docket No: | 50-346 |
| License No: | NPF-3 |
| Report No: | 05000346/2010-003 |
| Licensee: | FirstEnergy Nuclear Operating Company (FENOC) |
| Facility: | Davis-Besse Nuclear Power Station |
| Location: | Oak Harbor, OH |
| Dates: | April 1, 2010, through June 30, 2010 |
| Inspectors: | J. Rutkowski, Senior Resident Inspector<br>A. Wilson, Resident Inspector<br>B. Palagi, Senior Operations Engineer<br>D. Passehl, Senior Reactor Analyst<br>R. Russell, Emergency Preparedness Inspector<br>E. Stamm, Project Engineer, Region II<br>R. Walton, Senior Operations Engineer |
| Approved by: | Jamnes L. Cameron, Chief<br>Branch 6<br>Division of Reactor Projects |

Enclosure

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## SUMMARY OF FINDINGS

IR 05000346/2010-003; 4/1/10-6/30/10; Davis-Besse Nuclear Power Station; Operability Evaluations.

This report covers a 3-month period of inspection by resident inspectors and announced baseline inspections by regional inspectors. One Green finding was identified by the inspectors. The finding was considered a Non-Cited Violation of NRC regulations. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

### A. NRC-Identified and Self-Revealed Findings

**Cornerstone: Mitigating Systems**

- Severity Level IV. The inspectors identified a Severity Level IV, non-cited violation (NCV) of 10 CFR 50.72(b)(3)(ii)(B), and an associated Green finding, for the licensee's failure to recognize that, when in a shutdown condition, an 8-hour event notification to the NRC was required for the power plant being in an unanalyzed condition that significantly degrades plant safety. Specifically, during testing the Steam and Feedwater Rupture Control System (SFRCS) unexpectedly re-energized in a low steam line pressure blocked condition. This condition could cause an inappropriate SFRCS actuation and potentially result in auxiliary feedwater being supplied to a ruptured steam generator. Corrective actions included a change to the SFRCS logic to ensure that a power-on-reset occurs anytime 28 voltage direct current (VDC) power is lost.

  The inspectors determined that, per IMC 0612, Appendix B, "Issue Screening," the failure to report the plant being in an unanalyzed condition that significantly degrades plant safety in accordance with 10 CFR 50.72(b)(3)(ii)(B) was a performance deficiency. Because the performance deficiency involved a violation that could have impacted the regulatory process, it is dispositioned using traditional enforcement. In accordance with Supplement I of the NRC Enforcement Policy, a failure to make a required report to the NRC is a Severity Level IV violation. The inspectors determined the performance deficiency was more than minor because the underlying technical issue affected the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. This condition did not screen out in Phase 1 of the SDP because there was a potential loss of a safety function for greater than the technical specification allowed outage time. The significance of this condition was evaluated by the Region III Senior Reactor Analyst (SRA) and was determined to be of very low safety significance (Green). The inspectors determined that the primary cause of the performance deficiency affected the cross-cutting component of thorough evaluation of problems in the cross-cutting area of Problem Identification and Resolution. Specifically, the licensee did not properly evaluate a condition adverse to quality for reportability. (P.1(c)) (Section 1R15)

**B. Licensee-Identified Violations**

A violation of very low safety significance that was identified by the licensee has been reviewed by inspectors. Corrective actions planned or taken by the licensee has been entered into the licensee's corrective action program. These violation and corrective action tracking numbers are listed in Section 4OA7 of this report.

## REPORT DETAILS

### Summary of Plant Status

The unit began the inspection period defueled with ongoing activities associated with identification and repair of issues with the current reactor vessel head. On June 7, 2010, the licensee entered Mode 6 with commencement of reloading the core in the reactor vessel. Mode 5 was entered on June 18, 2010, and the reactor was declared critical on June 21, 2010. The unit turbine generator was connected to the utility's electric grid on June 29, 2010. At the end of the inspection period, the unit was in a planned power escalation that would result in full power operations several days into the next inspection period.

### 1. REACTOR SAFETY

**Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity**

1R04 Equipment Alignment (71111.04)

.1 Quarterly Partial System Walkdowns

a. Inspection Scope

The inspectors performed partial system walkdowns of the following risk-significant systems:

- service water train 1 during a partial service water outage on April 6, 2010; and
- decay heat/low pressure injection train 1 while in standby with train 2 providing reactor core cooling during reduced reactor coolant system (RCS) inventory on June 16, 2010.

The inspectors selected these systems based on their risk significance relative to the Reactor Safety Cornerstones at the time they were inspected. The inspectors attempted to identify any discrepancies that could impact the function of the system, and therefore, potentially increase risk. The inspectors reviewed applicable operating procedures, system diagrams, Updated Final Safety Analysis Report (UFSAR), Technical Specification (TS) requirements, outstanding work orders (WOs), condition reports (CRs), and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have rendered the systems incapable of performing their intended functions. The inspectors also walked down accessible portions of the systems to verify system components and support equipment were aligned correctly and operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no obvious deficiencies. The inspectors also verified that the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact the capability of mitigating systems or barriers and entered them into the corrective action program (CAP) with the appropriate significance characterization. Documents reviewed are listed in the Attachment to this report.

These activities constituted two partial system walkdown samples as defined in Inspectin Procedure (IP) 71111.04-05.

b. Findings

No findings were identified.

.2 Semi-Annual Complete System Walkdown

a. Inspection Scope

From April 10, 2010, through April 20, 2010, the inspectors performed a complete system alignment inspection of the component cooling water system to verify the functional capability of the system. This system was selected because it was considered both safety significant and risk significant in the licensee's probabilistic risk assessment. The inspectors walked down the system to review mechanical and electrical equipment line ups, electrical power availability, system pressure and temperature indications, as appropriate, component labeling, component lubrication, component and equipment cooling, hangers and supports, operability of support systems, and to ensure that ancillary equipment or debris did not interfere with equipment operation. A review of a sample of past and outstanding WOs was performed to determine whether any deficiencies significantly affected the system function. In addition, the inspectors reviewed the CAP database to ensure that system equipment alignment problems were being identified and appropriately resolved. Documents reviewed are listed in the Attachment to this report.

These activities constituted one complete system walkdown sample as defined in IP 71111.04-05.

b. Findings

No findings were identified.

1R05 Fire Protection - Routine Resident Inspector Tours (71111.05)

.1 Routine Resident Inspector Tours (71111.05Q)

a. Inspection Scope

The inspectors conducted fire protection walkdowns which were focused on availability, accessibility, and the condition of firefighting equipment in the following risk-significant plant areas:

- Mechanical Penetration Room Number 2 (Room 236, Fire Area A);
- High Voltage Switchgear Room B, Auxiliary Shutdown Panel and Transfer Switch Room, Charge Room, and Passage (Rooms 323, 324, 321, 322, Fire Areas P, Q, R);
- Fuel Handling Area (Room 300, Fire Area V), and Service Building 2 in which was stored some specialized fire response equipment; and
- Electrical Penetration Room 2 (Room 427, Fire Area DF).

The inspectors reviewed areas to assess if the licensee had implemented a fire protection program that adequately controlled combustibles and ignition sources within the plant, effectively maintained fire detection and suppression capability, maintained passive fire protection features in good material condition, and implemented adequate compensatory measures for out-of-service, degraded or inoperable fire protection equipment, systems, or features in accordance with the licensee's fire plan. The inspectors selected fire areas based on their overall contribution to internal fire risk as documented in the plant's Individual Plant Examination of External Events (IPEEE) with later additional insights, their potential to impact equipment which could initiate or mitigate a plant transient, or their impact on the plant's ability to respond to a security event. Using the documents listed in the Attachment to this report, the inspectors verified that fire hoses and extinguishers were in their designated locations and available for immediate use; that fire detectors and sprinklers were unobstructed; that transient material loading was within the analyzed limits; and fire doors, dampers, and penetration seals appeared to be in satisfactory condition. The inspectors also verified that minor issues identified during the inspection were entered into the licensee's CAP. Documents reviewed are listed in the Attachment to this report.

These activities constituted four quarterly fire protection inspection samples as defined in IP 71111.05-05.

b. Findings

No findings were identified.

1R06 Flooding - Internal Flooding (71111.06)

.1 Internal Flooding

a. Inspection Scope

The inspectors reviewed selected risk important plant design features and licensee procedures intended to protect the plant and its safety-related equipment from internal flooding events. The inspectors reviewed flood analyses and design documents, including the UFSAR, engineering calculations, and abnormal operating procedures to identify licensee commitments. The specific documents reviewed are listed in the Attachment to this report. In addition, the inspectors reviewed licensee drawings to identify areas and equipment that may be affected by internal flooding caused by the failure or misalignment of nearby sources of water, such as the fire suppression or the circulating water systems. The inspectors also reviewed the licensee's corrective action documents with respect to past flood-related items identified in the corrective action program to verify the adequacy of the corrective actions. The inspectors performed a walkdown of the following plant areas to assess the adequacy of watertight doors and verify drains and sumps were clear of debris and were operable, and that the licensee complied with its commitments:

- condenser pit, and ventilation openings to auxiliary feedwater pump rooms and door openings to switchgear rooms which could be impacted by a circulating water line break; and
- service water pipe tunnel and service water valve room 1.

This inspection constituted one internal flooding sample as defined in IP 71111.06-05.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program (71111.11)

.1 Resident Inspector Quarterly Review (71111.11Q)

a. Inspection Scope

On May 4, 2010, the inspectors observed a crew of licensed operators in the plant's simulator during licensed operator requalification examinations to verify that operator performance was adequate, evaluators were identifying and documenting crew performance problems, and training was being conducted in accordance with licensee procedures. The inspectors evaluated the following areas:

- licensed operator performance;
- crew's clarity and formality of communications;
- ability to take timely actions in the conservative direction;
- prioritization, interpretation, and verification of annunciator alarms;
- correct use and implementation of abnormal and emergency procedures;
- control board manipulations;
- oversight and direction from supervisors; and
- ability to identify and implement appropriate TS actions and Emergency Plan actions and notifications.

The crew's performance in these areas was compared to pre-established operator action expectations and successful critical task completion requirements. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one quarterly licensed operator requalification program sample as defined in IP 71111.11.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness - Routine Quarterly Evaluations (71111.12Q)

a. Inspection Scope

The inspectors evaluated degraded performance issues involving the following risk-significant system:

- service water system.

The inspectors reviewed events, such as where ineffective equipment maintenance had resulted in valid or invalid system transients, and independently verified the licensee's actions to address system performance or condition problems in terms of the following:

- implementing appropriate work practices;
- identifying and addressing common cause failures;
- scoping of systems in accordance with 10 CFR 50.65(b) of the maintenance rule;
- characterizing system reliability issues for performance;
- charging unavailability for performance;

- trending key parameters for condition monitoring;
- ensuring 10 CFR 50.65(a)(1) or (a)(2) classification or re-classification; and
- verifying appropriate performance criteria for structures, systems, and components (SSCs)/functions classified as (a)(2) or appropriate and adequate goals and corrective actions for systems classified as (a)(1).

The inspectors assessed performance issues with respect to the reliability, availability, and condition monitoring of the system. In addition, the inspectors verified maintenance effectiveness issues were entered into the CAP with the appropriate significance characterization. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one quarterly maintenance effectiveness sample as defined in IP 71111.12-05.

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13)

.1 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope

The inspectors reviewed the licensee's evaluation and management of plant risk for the maintenance and emergent work activities affecting risk-significant and safety-related equipment listed below to verify that the appropriate risk assessments were performed prior to performing the work:

- work activities during the week of June 13, 2010, which included RCS reduced inventory and reactor vessel head lift; and
- work activities from June 19-22 associated with bringing the reactor critical and changing modes using limiting condition for operation (LCO) 3.0.4(b) to address auxiliary feedwater train 1 and control room emergency air temperature control system train 1 inoperability.

These activities were selected based on their potential risk significance relative to the Reactor Safety Cornerstones. As applicable for each activity, the inspectors verified that risk assessments were performed as required by 10 CFR 50.65(a)(4) and were accurate and complete. When emergent work was performed, the inspectors verified that the plant risk was promptly reassessed and managed. The inspectors reviewed the scope of the work, discussed the results of the assessment with the licensee's probabilistic risk analyst or shift technical advisor, and verified plant conditions were consistent with the risk assessment. The inspectors also reviewed TS requirements and walked down portions of safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met.

These maintenance risk assessments and emergent work control activities constituted two samples as defined in IP 71111.13-05.

b. Findings

No findings were identified.

## 1R15 Operability Evaluations (71111.15)

### .1 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the following issue:

- potential issues with the calibration and setpoints of pressure switches in the auxiliary feedwater system (CR 10-76194 and CR 10-77366).

The inspectors selected these potential operability issues based on the risk significance of the associated components and systems. The inspectors evaluated the technical adequacy of the evaluations to ensure that TS operability was properly justified and the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors compared the operability and design criteria in the appropriate sections of the TS and Updated Safety Analysis Report (USAR) to the licensee's evaluations to determine whether the components or systems were operable. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled. The inspectors determined, where appropriate, compliance with bounding limitations associated with the evaluations. Additionally, the inspectors reviewed a sampling of corrective action documents to verify that the licensee was identifying and correcting any deficiencies associated with operability evaluations. Documents reviewed are listed in the Attachment to this report.

This operability inspection constituted one sample as defined in IP 71111.15-05.

b. Findings

No findings were identified.

### .2 URI 05000346/2010002-03 Review

a. Inspection Scope

The inspectors reviewed the documents associated with identified inoperability of the Steam-Feedwater Rupture Control System (SFRCS) due to a discovered design issue. Documents reviewed are listed in the Attachment to this report.

This review did not constitute an additional inspection sample as defined in IP 71111.15-05.

b. Findings

(1) (Closed) URI 05000346/2010002-03: "Inoperability of Steam-Feedwater Rupture Control System)"

At the end of the first quarter of 2010, the inspectors were reviewing an evaluation that established that the steam and feedwater rupture control system (SFRCS) could unexpectedly re-energize with the low steam line pressure block initiated following a short duration loss of power due to a loss of off-site power and emergency diesel generator start. This condition could result in auxiliary feedwater being supplied to a steam generator (SG) affected by a rupture. After reviewing the root cause analysis and evaluating the risk of the condition, the inspectors determined that a licensee-identified violation of very low safety significance existed for operating the plant with SFRCS inoperable. This licensee-identified violation is described in Section 4OA7 of this report. Additionally, the inspectors reviewed the adequacy of the licensee's reportability determination. The inspectors identified a Severity Level IV non-cited violation for the failure to make a required 8-hour report to the NRC associated with the discovered SFRCS condition in accordance with 10 CFR 50.72(b)(3)(ii)(B).
Unresolved Item 05000346/2010002-03 is closed.

(2) Failure to Make a Required 8-Hour Event Report Per 10 CFR 50.72(b)(3)(ii)(B)

Introduction: The inspectors identified a Severity Level IV, non-cited violation (NCV) of 10 CFR 50.72(b)(3)(ii)(B), and an associated Green finding, for the licensee's failure to recognize that, when in a shutdown condition, an 8-hour event notification to the NRC was required for the power plant being in an unanalyzed condition that significantly degrades plant safety.

Description: On March 2, 2010, after performance of an integrated safety features actuation system test, the licensee identified that SFRCS channel 4 had unexpectedly re-energized in a blocked condition. With such a condition existing, the channel could fail to operate correctly after a loss of offsite power. Specifically, there is the potential that upon the restoration of power, the logic channel could re-energize with the low steam line pressure block initiated. This condition could cause an inappropriate SFRCS actuation. Subsequently, the licensee also determined that SFRCS channel 3 could also experience this condition, which could result in auxiliary feedwater being supplied to a ruptured SG.

Troubleshooting determined that when power was interrupted to the SFRCS cabinet by opening the input breaker, the 28 voltage direct current (VDC) cabinet power supply voltage began to decay. However, due to large internal capacitors, it took approximately 4 seconds before the power supply was at half its normal voltage and additional time to decay to 0 volts. The SFRCS circuit boards use 15 VDC, which is supplied by the 28 VDC supply. When power was interrupted to the cabinet, the 15 VDC voltage remained steady for approximately 3 seconds before it began to decrease. The 15 VDC logic voltage took approximately 7 more seconds to decay to half its normal value. Since power is still being supplied to the logic circuits, the system would not recognize a short duration loss of power and would not initiate a power-on-reset, which is intended to restore SFRCS to a known state when it re-energizes.

In CR 10-73067, the licensee determined that SFRCS did not meet single failure criterion with this condition, which resulted in an unanalyzed condition that significantly degrades plant safety. The licensee recognized that a 60-day Licensee Event Report (LER) was required by 10 CFR 50.73, but determined that a 10 CFR 50.72 report was not required because, at the time of discovery, the plant was in Mode 5 and SFRCS was not required to be operable. However, this condition existed during prior reactor operation before it was discovered on March 2, 2010, while the reactor was shut down. The requirement in 10 CFR 50.72(a)(1)(ii) states, in part, that a notification is required for those non-emergency events specified in paragraph (b) of this section that occurred within 3 years of the date of discovery. Furthermore, in revision 2 of NUREG-1022, "Event Reporting Guidelines," NRC guidance refers to the specific reporting regulation concerning unanalyzed conditions, 10 CFR 50.72(b)(3)(ii), which captures events regardless of whether or not they are found while the reactor is shutdown. Therefore, based on guidance in NUREG-1022 and consultation with regional and headquarters staff, the NRC position was that the condition was subject to the reporting requirements of 10 CFR 50.72(b)(3)(ii)(B).

The licensee additionally documented the equipment conditions in CR 10-72446 and CR 10-72688. A root cause report was prepared as part of CR 10-73067. Corrective actions were completed that addressed the cause of the condition, which was to change the SFRCS logic to ensure that a power-on-reset occurs anytime 28 VDC power is lost. SFRCS test procedures were also revised to ensure that the system properly responds to a short duration loss of power.

<u>Analysis</u>: The inspectors determined that, per IMC 0612, Appendix B, "Issue Screening," the failure to report the plant being in an unanalyzed condition that significantly degrades plant safety in accordance with 10 CFR 50.72(b)(3)(ii)(B) was a performance deficiency. Because the performance deficiency involved a violation that could have impacted the regulatory process it is dispositioned using traditional enforcement. In accordance with Supplement I of the NRC Enforcement Policy, a failure to make a required report to the NRC is a Severity Level IV violation.

The inspectors determined the performance deficiency was more than minor because the underlying technical issue affected the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. This condition did not screen out in Phase 1 of the SDP because there was a potential loss of a safety function for greater than the technical specification allowed outage time. The significance of this condition was evaluated by the Region III Senior Reactor Analyst (SRA) using an exposure time of 1 year, the maximum allowed by the SDP. The SRA estimated the risk significance of this event using the frequency of a steam line break inside containment (5.7E-4/yr), the conditional probability of a consequential LOOP following a reactor trip (5.3E-3), and the mitigating functions provided in the Davis-Besse Risk Informed Phase 2 Notebook for the Main Steam Line Break. For the Auxiliary Feed Water (AFW) mitigating function, the SRA assumed the isolation of AFW was nonfunctional. The dominant sequence involved failure of the main steam isolation valve (MSIVs) to close and operator failure to stop makeup injection. The resultant delta core damage frequency (CDF) was conservatively estimated at 1E-8, meaning the finding was of very low risk significance (Green). The SRA also reviewed the licensee's risk analysis of this issue, which also concluded that the risk was very low.

The inspectors determined that the primary cause of the performance deficiency affected the cross-cutting component of thorough evaluation of problems in the cross-cutting area of Problem Identification and Resolution. Specifically, the licensee did not properly evaluate a condition adverse to quality for reportability. P.1(c)

Enforcement: Title 10 CFR 50.72(b)(3)(ii)(B) requires, in part, that operating reactor licensees shall notify the NRC within 8 hours of the occurrence of any event or condition that results in the nuclear power plant being in an unanalyzed condition that significantly degrades plant safety. Contrary to this requirement, on March 10, 2010, the licensee failed to report within 8 hours the SFRCS condition that caused the plant to be in an unanalyzed condition. Because the performance deficiency involved a violation that could have impacted the regulatory process, it is dispositioned using traditional enforcement. In accordance with Supplement I of the NRC Enforcement Policy, a failure to make a required report to the NRC is a Severity Level IV violation. Because this violation was of very low safety significance and it was entered into the licensee's corrective action program as CR 10-79651, this violation is being treated as a Severity Level IV NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy. (**NCV 05000346/2010003-01, "Failure to Make a Required 8-Hour Event Report Per 10 CFR 50.72(b)(3)(ii)(B)"**)

## 1R18 Plant Modifications -Temporary Plant Modifications (71111.18)

### .1 Temporary Plant Modifications

#### a. Inspection Scope

The inspectors reviewed the following temporary modification:

- Notification 600609031 – Alternate Reactor Vessel Head Storage/Work Location.

The inspectors compared the temporary configuration change and associated 10 CFR 50.59 screening and evaluation information against the design basis, the Updated Final Safety Analysis Report (UFSAR), and the TS, as applicable, to verify that the modification did not affect the operability or availability of the containment building system. The inspectors also compared the licensee's information to operating experience information to ensure that lessons learned from other utilities had been incorporated into the licensee's decision to implement the temporary modification. The inspectors, as applicable, performed field verifications to ensure that the modification was installed as directed; the modification performed as expected; and that the modification did not impact the operability of any interfacing systems. Documents reviewed in the course of this inspection are listed in the Attachment to this report.

This inspection constituted one temporary modification sample as defined in IP 71111.18-05.

#### b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19)

.1 Post-Maintenance Testing

a. Inspection Scope

The inspectors reviewed the following post-maintenance (PM) activities to verify that procedures and test activities were adequate to ensure system operability and functional capability:

- emergency diesel generator 2 testing following modification of timing relays;
- containment spray pump 2 testing following planned replacement of the motor;
- high pressure injection pump 2 testing following planned replacement of the motor;
- decay heat pump 2 testing following planned replacement of the motor;
- reactor coolant system leakage testing at normal operating pressure and temperature following reassembly of systems during refueling outage 16;
- main steam stop valve 101 time response and drag force measurement after maintenance and reassembly of the valve during refueling outage 16; and
- main turbine overspeed trip test and synchronization to the electric grid after maintenance to the high pressure turbine and front standard during refueling outage 16.

These activities were selected based upon the structure, system, or component's ability to impact risk. The inspectors evaluated these activities for the following (as applicable): the effect of testing on the plant had been adequately addressed; testing was adequate for the maintenance performed; acceptance criteria were clear and demonstrated operational readiness; test instrumentation was appropriate; tests were performed as written in accordance with properly reviewed and approved procedures; equipment was returned to its operational status following testing (temporary modifications or jumpers required for test performance were properly removed after test completion); and test documentation was properly evaluated. The inspectors evaluated the activities against TS, the UFSAR, 10 CFR Part 50 requirements, licensee procedures, and various NRC generic communications to ensure that the test results adequately ensured that the equipment met the licensing basis and design requirements. In addition, the inspectors reviewed corrective action documents associated with PM tests to determine whether the licensee was identifying problems and entering them in the CAP and that the problems were being corrected commensurate with their importance to safety. Documents reviewed are listed in the Attachment to this report.

This inspection constituted seven post-maintenance testing samples as defined in IP 71111.19-05.

b. Findings

No findings were identified.

1R20 Outage Activities-Refueling Outage Activities (71111.20)

.1 Refueling Outage Activities

a. Inspection Scope

During the previous inspection period the inspectors reviewed the Outage Safety Plan (OSP) and contingency plans for the refueling outage (RFO), which began on February 28, 2010, to confirm that the licensee had appropriately considered risk, industry experience, and previous site-specific problems in developing and implementing a plan that assured maintenance of defense-in-depth. During this inspection period, the inspectors observed portions of the plant re-assembly and restart processes and monitored licensee controls over the outage activities listed below:

- licensee configuration management, including maintenance of defense-in-depth commensurate with the OSP for key safety functions and compliance with the applicable TS when taking equipment out of service;
- implementation of clearance activities and confirmation that tags were properly hung and equipment appropriately configured to safely support the work or testing;
- installation and configuration of reactor coolant pressure, level, and temperature instruments to provide accurate indication, accounting for instrument error;
- controls over the status and configuration of electrical systems to ensure that TS and OSP requirements were met, and controls over switchyard activities;
- monitoring of decay heat removal processes, systems, and components;
- controls to ensure that outage work was not impacting the ability of the operators to operate the spent fuel pool cooling system;
- reactor water inventory controls including flow paths, configurations, and alternative means for inventory addition, and controls to prevent inventory loss;
- controls over activities that could affect reactivity;
- maintenance of containment as required by TS;
- refueling activities which involved reloading the reactor core;
- startup and ascension to power operation and tracking of startup prerequisites;
- walkdown of the containment to verify that debris had not been left which could block emergency core cooling system suction strainers;
- reactor physics testing;
- licensee identification and resolution of problems related to RFO activities; and
- work hour schedules for Operations, Maintenance, and Security including review of various section assessments of compliance to fatigue rule requirements.

Documents reviewed during the inspection are listed in the Attachment to this report.

This inspection and the refueling outage inspection activities described in Section 1R20 of integrated inspection report 05000346/2010002 constituted one RFO sample as defined in IP 71111.20-05.

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22)

.1 Surveillance Testing

a. Inspection Scope

The inspectors reviewed the test results for the following activities to determine whether risk-significant systems and equipment were capable of performing their intended safety function and to verify testing was conducted in accordance with applicable procedural and TS requirements:

- DB-ME-3046, "D1 Bus Under Voltage Units Monthly Functional Test," on May 27, 2010, (routine);
- DB-SC-3077, "Emergency Diesel Generator 2 184 Day Test," on May 26, 2010, (routine);
- DB-SP-3337, "Containment Spray Train 1 Quarterly Pump and Valve Test," on June 6, 2010, (IST);
- DB-SP-3134, "Containment Emergency Sump Visual Inspection," on June 21, 2010, (routine);
- DB-PF-3008, " Containment Local Leakage Rate Tests," of penetration 33 (valves CV 5007 and CV 5008) on June 19, 2010 (ISO Valve); and
- EN-DP-1507, "Containment Walkdown for Potential Sump Screen Debris Sources," for containment closure and readiness for entry into Mode 4 on June 22, 2010, through June 24, 2010, (routine).

The inspectors observed in-plant activities and reviewed procedures and associated records to determine the following:

- did preconditioning occur;
- were the effects of the testing adequately addressed by control room personnel or engineers prior to the commencement of the testing;
- were acceptance criteria clearly stated, demonstrated operational readiness, and consistent with the system design basis;
- plant equipment calibration was correct, accurate, and properly documented;
- as-left setpoints were within required ranges; and the calibration frequency were in accordance with TSs, the USAR, procedures, and applicable commitments;
- measuring and test equipment calibration was current;
- test equipment was used within the required range and accuracy; applicable prerequisites described in the test procedures were satisfied;
- test frequencies met TS requirements to demonstrate operability and reliability; tests were performed in accordance with the test procedures and other applicable procedures; jumpers and lifted leads were controlled and restored where used;
- test data and results were accurate, complete, within limits, and valid;
- test equipment was removed after testing;
- where applicable for inservice testing activities, testing was performed in accordance with the applicable version of Section XI, American Society of Mechanical Engineers code, and reference values were consistent with the system design basis;

- where applicable, test results not meeting acceptance criteria were addressed with an adequate operability evaluation or the system or component was declared inoperable;
- equipment was returned to a position or status required to support the performance of its safety functions; and
- all problems identified during the testing were appropriately documented and dispositioned in the CAP.

Documents reviewed are listed in the Attachment to this report.

This inspection constituted four routine surveillance testing samples, one inservice testing sample, and one containment isolation valve sample as defined in IP 71111.22, Sections -02 and -05.

b. Findings

No findings were identified.

**Cornerstone: Emergency Preparedness**

1EP2 Alert and Notification System Evaluation (71114.02)

.1 Alert and Notification System Evaluation

a. Inspection Scope

The inspectors held discussions with Emergency Preparedness (EP) staff regarding the operation, maintenance, and periodic testing of the Alert and Notification System (ANS) in the Davis-Besse Nuclear Power Station's plume pathway Emergency Planning Zone. The inspectors reviewed monthly trend reports and siren test failure records from February 2008 through April 2010. Information gathered during document reviews and interviews was used to determine whether the ANS equipment was maintained and tested in accordance with Emergency Plan commitments and procedures. Documents reviewed are listed in the Attachment to this report.

This alert and notification system inspection constituted one sample as defined in IP 71114.02-05.

b. Findings

No findings of significance were identified.

1EP3 Emergency Response Organization Augmentation Testing (71114.03)

.1 Emergency Response Organization Augmentation Testing

a. Inspection Scope

The inspectors reviewed and discussed with plant EP staff the emergency plan commitments and procedures that addressed the primary and alternate methods of initiating an Emergency Response Organization (ERO) activation to augment the on shift ERO as well as the provisions for maintaining the ERO emergency telephone book.

The inspectors also reviewed reports and a sample of corrective action program records of unannounced off-hour augmentation tests, which were conducted from February 2008 through April 2010, to determine the adequacy of post-drill critiques and associated corrective actions. The inspectors reviewed the EP training records of approximately 43 ERO personnel assigned to key and support positions to determine the status of their ERO training. Documents reviewed are listed in the Attachment to this report.

This emergency response organization augmentation testing inspection constituted one sample as defined in IP 71114.03-05.

b. Findings

No findings of significance were identified.

1EP4 Emergency Action Level and Emergency Plan Changes (71114.04)

.1 Emergency Action Level and Emergency Plan Changes

a. Inspection Scope

The inspectors conducted a review of all the emergency action level changes and sampled the revisions to the emergency plan to evaluate whether the changes identified in the revisions may have decreased the effectiveness of the emergency plan. The inspection included a review of the 10 CFR 50.54(q) change process documentation. Since the last NRC emergency plan change inspection and in accordance with 10 CFR 50.54(q), the emergency action level scheme, RA-EP-01500, "Emergency Classification," Revision 12, and technical basis, DBRM-EMER- 1500A, "Davis-Besse Emergency Action Level Basis Document," Revision 1, were implemented based on your determination that the changes resulted in no decrease in effectiveness of the emergency plan and the revisions continued to meet the requirements of 10 CFR 50.47(b) and Appendix E to 10 CFR Part 50. The NRC review of the revisions does not constitute formal approval of the changes; therefore, the emergency action level and emergency plan changes remain subject to future NRC inspection in their entirety. Documents reviewed are listed in the Attachment to this report.

This emergency action level and emergency plan changes inspection constituted one sample as defined in IP 71114.04-05.

b. Findings

No findings of significance were identified.

1EP5 Correction of Emergency Preparedness Weaknesses and Deficiencies (71114.05)

.1 Correction of Emergency Preparedness Weaknesses and Deficiencies

a. Inspection Scope

The inspectors reviewed a sample of Fleet Oversight staff's 2008 and 2009 audits of the Davis-Besse Station emergency preparedness program to determine that these independent assessments met the requirements of 10 CFR 50.54(t). The inspectors also reviewed critique reports and samples of corrective action program records associated with the 2009 biennial exercise, as well as various EP drills conducted in 2008 and 2009, in order to determine that the licensee fulfilled drill commitments and to evaluate the licensee's efforts to identify, track, and resolve concerns identified during these activities. Additionally, the inspectors reviewed a sample of EP items and corrective actions related to the facility's EP program and activities to determine whether corrective actions were completed in accordance with the sites corrective action program. Documents reviewed are listed in the Attachment to this report.

This correction of emergency preparedness weaknesses and deficiencies inspection constituted one sample as defined in IP 71114.05-05.

b. Findings

No findings of significance were identified.

1EP6 Emergency Preparedness Drill Observation (71114.06)

a. Inspection Scope

The inspectors evaluated the conduct of a routine licensee emergency drill on May 20, 010, to identify any weaknesses and deficiencies in classification, notification, and protective action recommendation development activities. The inspectors observed emergency response operations in the control room simulator, technical support center, and emergency operations facility to determine whether the event classification, notifications, and protective action recommendations were performed in accordance with procedures. The inspectors also attended the licensee drill critique to compare any inspector-observed weakness with those identified by the licensee staff in order to evaluate the critique and to verify whether the licensee staff was properly identifying weaknesses and entering them into the corrective action program. As part of the inspection, the inspectors reviewed the drill package and other documents listed in the Attachment to this report.

This emergency preparedness drill inspection constituted one sample as defined in IP 71114.06-05.

b. Findings

No findings were identified.

## 4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

.1 Unplanned Scrams with Complications

a. Inspection Scope

The inspectors sampled licensee submittals for the Unplanned Scrams with Complications performance indicator for the period starting from the second quarter of 2009 through the first quarter of 2010. To determine the accuracy of the Performance Indicator (PI) data reported during those periods, PI definitions and guidance contained in the Nuclear Energy Institute (NEI) Document 99-02, "Regulatory Assessment

Performance Indicator Guideline," Revision 6, were used. The inspectors reviewed the licensee's operator narrative logs, issue reports, event reports and NRC Integrated Inspection Reports for the period starting from the second quarter of 2009 through the first quarter of 2010 to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the PI data collected or transmitted for this indicator, and none were identified. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one unplanned scrams with complications sample as defined in IP 71151-05.

b. Findings

No findings were identified.

.2 Unplanned Power Changes per 7000 Critical Hours

a. Inspection Scope

The inspectors sampled licensee submittals for the Unplanned Power Changes per 7000 Critical Hours performance indicator for the period starting from the second quarter of 2009 through the first quarter of 2010. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, were used. The inspectors reviewed the licensee's operator narrative logs, issue reports, maintenance rule records, event reports and NRC Integrated Inspection Reports for the period starting from the second quarter of 2009 through the first quarter of 2010 to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the PI data collected or transmitted for this indicator, and none were identified. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one unplanned power changes per 7000 critical hours sample as defined in IP 71151-05.

b. Findings

No findings were identified.

.3 Drill/Exercise Performance

a. Inspection Scope

The inspectors sampled the licensee performance indicator (PI) submittals for Drill/Exercise Performance for the period from the second quarter 2009 through fourth quarter 2009. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance were used as contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5. The inspectors verified the accuracy of the number of reported drill and exercise opportunities and the licensee's critiques and assessments for timeliness and accuracy of the opportunities. The inspectors reviewed the licensee's documentation for control room simulator training sessions, the 2009 biennial exercise, and other designated drills to validate the accuracy of the submittals. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one drill/exercise performance sample as defined in IP 71151-05.

b. Findings

No findings of significance were identified.

.4 Emergency Response Organization Drill Participation

a. Inspection Scope

The inspectors sampled the licensee submittals for the Emergency Response Organization (ERO) Drill Participation PI for the period from the second quarter 2009 through the fourth quarter 2009. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance were used as contained in the NEI Document 99-02, “Regulatory Assessment Performance Indicator Guideline,” Revision 5. The inspectors reviewed the licensee’s records and ERO roster to validate the accuracy of the submittals for the number of ERO members assigned to fill key positions and the percentage of ERO members who had participated in a performance enhancing drill or exercise. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one ERO drill participation sample as defined in IP 71151-05.

b. Findings

No findings of significance were identified.

.5 Alert and Notification System

a. Inspection Scope

The inspectors sampled the licensee submittals for the Alert and Notification System (ANS) PI for the period from the second quarter 2009 through fourth quarter 2009. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance were used as contained in the NEI Document 99-02, “Regulatory Assessment Performance Indicator Guideline,” Revision 5. The inspectors reviewed the records of the licensee’s reported number of successful siren operability tests as compared to the number of siren tests conducted during the reporting period to validate the accuracy of the submittals. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one alert and notification system sample as defined in IP 71151-05.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152)

**Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, Emergency Preparedness, Public Radiation Safety, Occupational Radiation Safety, and Physical Protection**

.1 Routine Review of Items Entered into the Corrective Action Program

a. Inspection Scope

As part of the various baseline inspection procedures discussed in previous sections of this report, the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify that they were being entered into the licensee's CAP at an appropriate threshold, that adequate attention was being given to timely corrective actions, and that adverse trends were identified and addressed. Attributes reviewed included: the complete and accurate identification of the problem; that timeliness was commensurate with the safety significance; that evaluation and disposition of performance issues, generic implications, common causes, contributing factors, root causes, extent-of-condition reviews, and previous occurrences reviews were proper and adequate; and that the classification, prioritization, focus, and timeliness of corrective actions were commensurate with safety and sufficient to prevent recurrence of the issue. Minor issues entered into the licensee's CAP as a result of the inspectors' observations are included in the attached List of Documents Reviewed.

These routine reviews for the identification and resolution of problems did not constitute any additional inspection samples. Instead, by procedure, they were considered an integral part of the inspections performed during the quarter and documented in Section 1 of this report.

b. Findings

No findings were identified.

.2 Daily Corrective Action Program Reviews

a. Inspection Scope

In order to assist with the identification of repetitive equipment failures and specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the licensee's CAP. This review was accomplished through inspection of the station's daily condition report packages.

These daily reviews were performed by procedure as part of the inspectors' daily plant status monitoring activities and, as such, did not constitute any separate inspection samples.

b. Findings

No findings were identified.

.3 Semi-Annual Trend Review

a. Inspection Scope

The inspectors performed a review of the licensee's CAP and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors' review was focused on repetitive equipment issues, but also considered the results of daily inspector CAP item screening discussed in Section 4OA2.2 above, licensee trending efforts, and licensee human performance results. The inspectors' review nominally considered the 6-month period of November 2009 through April 2010, although some examples expanded beyond those dates where the scope of the trend warranted.

The review also included issues documented outside the normal CAP in major equipment problem lists, repetitive and/or rework maintenance lists, departmental problem/challenges lists, system health reports, quality assurance audit/surveillance reports, self-assessment reports, and Maintenance Rule assessments. The inspectors compared and contrasted their results with the results contained in the licensee's CAP trending reports. Corrective actions associated with a sample of the issues identified in the licensee's trending reports were reviewed for adequacy.

This review constituted one semi-annual trend inspection sample as defined in IP 71152-05.

b. Findings

No findings were identified.

4OA3 Follow-Up of Events and Notices of Enforcement Discretion (71153)

.1 (Closed) Licensee Event Report (LER) 05000346/2010-001-00: "Steam and Feedwater Rupture Control System Re-Energizes in a Blocked Condition On Loss of Offsite Power"

On March 2, 2010, after performance of the integrated safety features actuation system test, the licensee identified that SFRCS channel 4 had re-energized in a blocked condition. With such a condition existing, the licensee stated the channel could fail to operate correctly after a loss of offsite power. Specifically, there is the potential that upon the restoration of power, the logic channel could re-energize with the low steam line pressure block initiated. This condition could cause an inappropriate SFRCS actuation. Subsequently, the licensee also determined that SFRCS channel 3 could also experience this condition and potentially result in auxiliary feedwater being supplied to a ruptured SG. In CR 10-73067, the licensee determined that SFRCS did not meet single failure criterion with this condition, which resulted in an unanalyzed condition that significantly degraded plant safety and was reportable per 10 CFR 50.73. The enforcement aspects of this licensee-identified violation are discussed in Section 4OA7 of this inspection report. Additionally, the inspectors identified a non-cited violation for the failure to make a required 8-hour event report per 10 CFR 50.72(b)(3)(ii)(B), which is documented in Section 1R15 of this inspection report. Documents reviewed as part of this inspection are listed in the Attachment to this report.

LER 05000346/2010-001 is closed.

This inspection constitutes one sample as defined in IP 71153-05.

4OA5 Other Activities

.1 Licensee Activities and Meetings

In addition to regularly attending daily plant status meetings, the inspectors observed select portions of other licensee activities and meetings and met with licensee personnel to discuss various topics. The activities that were sampled included:

- outage restart readiness meeting on April 13, 2010;
- reactor vessel project overview for plant employees on April 16, 2010;
- fleet oversight first quarter brief on observations and findings on May 12, 2010; and
- CRDM nozzle mode 3 examination challenge meeting on June 16, 2010.

.2 Inspection of Procedures and Processes for Managing Fatigue (TI 2515/180)

a. Inspection Scope

The objective of this Temporary Instruction (TI) is to determine if the licensees' implementation procedures and processes required by 10 CFR Part 26, Subpart I, "Managing Fatigue" are in place to reasonably ensure the requirements specified in Subpart I are being addressed. The TI applies to all operating nuclear power reactor licensees but is intended to be performed for one site per utility. The inspector interfaced with the appropriate station staff to obtain and review station policies, procedures and processes necessary to complete all portions of this TI.

b. Findings

No findings were identified.

4OA6 Management Meetings

.1 Exit Meeting Summary

On July 13, 2010, the inspectors presented the inspection results to Mr. B. Allen and other members of the licensee staff. The licensee acknowledged the issues presented. The inspectors confirmed that none of the potential report input discussed was considered proprietary.

.2 Interim Exit Meetings

Interim exits were conducted for:

- TI 2515/180 Inspection of Procedures and Processes for Managing Fatigue with the Site Supervisor of Access Control, M. Hoffman, on May 18, 2010; and
- Emergency Preparedness inspection interim exit with the Director, Performance Improvement, Mr. C. Price, was conducted at the site on May 7, 2010, and final EP inspection exit with the Director, Site Operations, Mr. B. Boles, was conducted by telephone on June 30, 2010.

The inspectors confirmed that none of the potential report input discussed was considered proprietary. Proprietary material received during the inspection was returned to the licensee.

4OA7 Licensee-Identified Violations

The following violation of very low safety significance (Green) was identified by the licensee and is a violation of NRC requirements which meets the criteria of Section VI.A.1 of the NRC Enforcement Policy for being dispositioned as an NCV.

- Technical Specification 3.3.13, "Steam and Feedwater Rupture Control System Actuation," requires channels 1 and 2 of each logic function to be operable in Modes 1, 2, and 3. Contrary to the requirement above, the licensee operated with a steam and feedwater rupture control system (SFRCS) condition that was prohibited by TS 3.3.13. On March 10, 2010, the licensee identified that the SFRCS could unexpectedly re-energize with the low steam line pressure block initiated following a short duration loss of power due to a loss of off-site power (LOOP) and emergency diesel generator start. This condition could result in auxiliary feedwater (AFW) being supplied to a SG affected by a rupture.
The issue was entered into the CAP as CR 10-73067. Corrective actions were completed that addressed the cause of the condition, which was to change the SFRCS logic to ensure that a power-on-reset occurs anytime 48 VDC power is lost. SFRCS test procedures were also revised to ensure that the system properly responds to a short duration loss of power.

  The inspectors determined that the operation of SFRCS in a condition prohibited by technical specifications was a performance deficiency that was more than minor because the issue affected the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. This condition did not screen out in Phase 1 of the SDP because there was a potential loss of a safety function for greater than the technical specification allowed outage time. The significance of this condition was evaluated by the Region III Senior Reactor Analyst (SRA) using an exposure time of 1 year, the maximum allowed by the SDP. The SRA estimated the risk significance of this event using the frequency of a steam line break inside containment (5.7E-4/yr), the conditional probability of a consequential LOOP following a reactor trip (5.3E-3), and the mitigating functions provided in the Davis-Besse Risk Informed Phase 2 Notebook for the Main Steam Line Break. For the AFW mitigating function, the SRA assumed the isolation of AFW was nonfunctional. The dominant sequence involved failure of the main steam isolation valve (MSIVs) to close and operator failure to stop makeup injection. The resultant delta core damage frequency (CDF) was conservatively estimated at 1E-8, meaning the finding was of very low risk significance (Green). The SRA also reviewed the licensee's risk analysis of this issue, which also concluded that the risk was of very low safety significance.

ATTACHMENT: SUPPLEMENTAL INFORMATION

## SUPPLEMENTAL INFORMATION

## KEY POINTS OF CONTACT

Licensee

B. Allen, Site Vice President
B. Boles, Director, Site Operations
N. DiPietro, Manager Fleet Access Control
J. Dominy, Director, Site Maintenance
M. Hoffman, Site Supervisor of Access Control
G. Halnon, Director of Fleet Regulatory Affairs
R. Howard, Manager Site Maintenance
V. Kaminskas, Director, Site Engineering
C. Price, Director, Site Performance Improvement
G. Wolf, Regulatory Compliance Supervisor
B. Young, Plant Engineering Supervisor
V. Kaminskas, Engineering Director
B. Boles, Site Operations Director
C. Steagall, Fleet Oversight Manager
J. Sturdavant, Regulatory Compliance Senior Specialist
P. Boissoncault, Chemistry Manager
D. Noble, Radiation Protection Manager
B. Hennessy, Regulatory Compliance Manger
D. Dewitz, Emergency Response Specialist
P. Smith, Emergency Response Specialist
K. Frias, Emergency Response Senior Nuclear Administration
J. Vetter, Emergency Preparedness Manager

Ohio Emergency Management Agency
C. O'Claire, Chief, Radiological Branch, Ohio Emergency Management Agency
B. Martin, Radiological Analyst, Ohio Emergency Management Agency

Nuclear Regulatory Commission
J. Rutkowski, Senior Resident Inspector

## LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened and Closed

| | | |
|---|---|---|
| 05000346/2010-003-01 | NCV | Failure to Make a Required 8-Hour Event Report Per 10 CFR 50.72(b)(3)(ii)(B) (Section 1R15.2) |

Closed

| | | |
|---|---|---|
| 05000346/2010-002-03 | URI | Inoperability of Steam-Feedwater Rupture Control System (Section 1R15.2) |
| 05000346/2010-001-00 | LER | Steam and Feedwater Rupture Control System Re-Energizes in a Blocked Condition On Loss of Offsite Power (Section 4OA3.1) |
| 2515/180 | TI | Inspection Of Procedures And Processes For Managing Fatigue (Section 4OA5.2) |

Discussed

None.

## LIST OF DOCUMENTS REVIEWED

The following is a partial list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspector reviewed the documents in their entirety, but rather that selected sections or portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document on this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection report.

### 1R04 Equipment Alignment

Procedures:
- DB-OP-6012; Decay Heat/Low Pressure Injection System Operating Procedure; Revision 47
- DB-OP-6261; Service Water, Revision 43
- DB-OP-6262; Component Cooling Water System Procedure; Revision 22

Drawings:
- M-33B; Decay Heat Train 1; Revision 50
- OS-4, Sheet 1; Decay Heat Removal/Low Pressure Injection System; Revision 45
- OS-20, Sheet 1; Service Water System; Revision 73
- OS-21, Sheet 1; Component Cooling Water System; Revision 33
- OS-21, Sheet 2; Component Cooling Water System; Revision 26
- OS-21, Sheet 3; Component Cooling Water System; Revision 12

### 1R05 Fire Protection

Procedures:
- PFP-AB-236; Protected Area Pre-Fire Plan, Auxiliary Building, Room 236, No. 2 Mechanical Penetration Room; Revision 3
- PFP-AB-321; Protected Area Pre-Fire Plan, Auxiliary Building, Room 321, Charge Room; Revision 4
- PFP-AB-322; Protected Area Pre-Fire Plan, Auxiliary Building, Room 322, Passage; Revision 4
- PFP-AB-323; Protected Area Pre-Fire Plan, Auxiliary Building, Room 323, High Voltage Switchgear Room B; Revision 4
- PFP-AB-324; Protected Area Pre-Fire Plan, Auxiliary Building, Room 324, Auxiliary Shutdown Panel and Transfer Switch Room; Revision 4
- PFP-S2-0000; Outside of Protected Area Pre-Fire Plan, Service Building 2; Revision 4

Drawings:
- A-222F; Fire Protection General Floor Plan El. 565'-0"; Revision 15
- A-223F; Fire Protection General Floor Plan El. 585'-0"; Revision 21
- A-224F; Fire Protection General Floor Plan El. 603'-0"; Revision 23

Other:
- Fire Hazard Analysis Report

### 1R06 Flooding

Procedures:
- RA-EP-2880; Internal Flooding; Revision 3
- DB-OP-2517; Circulating Water Pump Trip / Circulating Water System Ruptures; Revision 3

Drawings:
- C-402; Pipe Tunnel & Valve Room 1 Plan-Section & Details; Revision 12
- M-473-A; Low Density Silicone Foam Penetration Seal Typical Details; Revision 1

Calculations:
- C-ECS-099.16-134; Circulating Water Expansion Joint Rupture at Condenser Inlet; Revision 1
- C-ME-021-02-003; Domestic Water Flooding of SW Tunnel; Revision 0

Other:
- Potential Condition Adverse to Quality Report 89-0083, dated February 7, 1989

1R11 Licensed Operator Requalification Program

Procedures:
- NOBP-TR-1112; FENOC Conduct of Simulator Training and Evaluation; Revision 0

Other:
- OERQ-EPE-S204; SFAS Instrument Failure and Subsequent Failures; Revision 0

1R12 Maintenance Effectiveness

Condition Reports:
- 09-59292; ECCS Room Cooler #2 Shows Marginal Signs Of Biofouling
- 09-61941; Secondary Cooling Loads Swap From Service Water To Circ Water Unexpectedly
- 09-63800; Service Water Train 3 Will Exceed Its Maintenance Rule Unavailability Allowance
- 09-67657; Service Water Train 2 Found Inoperable During Past Operability Evaluation
- 09-69007; Service Water Train 2 Exceeded Its Maintenance Rule Unavailability
- 10-71126; Evaluation Of Work Performed On #2 SWP Strainer Requested
- 10-71168; #2 Service Water Strainer Leakage And Rotation Problems
- 10-73911; Through Wall Leak In Service Water Piping (ECCS Room Cooler #4 Return)
- 10-76128; Service Water Piping Wall Thickness

Procedures:
- DB-PF-00003; Maintenance Rule; Revision 28
- NOP-ER-3004; FENOC Maintenance Rule Program; Revision 1

Work Orders:
- 200070025; Replace Strainer in F15-2
- 200136469; SR946: Repair/Replace Valve
- 200165513; ECR 06-0133, ECR 07-0013 Replace Cables
- 200239890; PM 0571, Inspect Service Water ECCS Train 2 Piping
- 200239891; PM 0588, Inspect Service Water ECCS Train 1 Piping
- 200284546; Rework The Intake Canal Wall
- 200349438; SW2929 Adjust Tripper Fingers
- 200345806; SW1374 Replace Valve

Other:
- Maintenance Rule Program Manual; Revision 28
- Maintenance Rule Expert Panel Meeting Minutes; dated September 25, 2009
- System Health Report; Service Water System; dated March 11, 2010

1R13 Maintenance Risk Assessments and Emergent Work Control

Condition Reports:
- 10-78951; Risk Assessment to Support Entry into Mode 2 IAW LCO 3.0.4
- 10-78954; Crevs Train 1 Compressor Tripped

Procedures:
- DB-NE-03212; Zero Power Physics Testing; Revision 9
- DB-OP-06901; Plant Startup; Revision 32
- DB-OP-06912; Approach to Criticality; Revision 13
- NOBP-OP-0007; Conduct of Infrequently Performed Tests or Evolutions; Revision 2
- NOP-OP-1006; Shutdown Defense in Depth; Revision 12
- 03-9060727; Areva Davis-Besse Reactor Vessel Head Removal; Revision 1

Other:
- 16RFO Shutdown Defense in Depth Reports; week of June 13, 2010
- IPTE briefing package for reactor head lift and movement; dated June 17, 2010
- PRA-DB1-10-006-R00; Entry into Mode 2 with Auxiliary Feed Pump 1 (P14-1) Unavailable; Revision 0
- PRA-DB1-10-005-R00; Risk Assessment for Entering Mode 2 and Mode 1 with CREATCS Train 1 Unavailable; Revision 0

1R15 Operability Evaluations

Condition Reports:
- 10-73117; DBRM-RC-0001 Overly Conservative For Reporting Current Conditions
- 10-73067; SFRCS Channels Re-energizing in a Blocked Condition Upon a Loss of Off-site Power
- 10-76194; Surveillance Tests DB-MI-3901 and DB-MI-3904 Are incorrectly Performed
- 10-77366; Concerns with DB-MI-3901 Review
- 10-77378; Extent of Condition for Aux Feed Water Pressure Switches
- 10-79651; Failure to Notify NRC of Unanalyzed Condition in 8 Hours

Drawings:
- OS-17A, Sheet 1; Auxiliary Feedwater System; Revision 23
- OS-17A, Sheet 2; Auxiliary Feedwater System; Revision 4

Calculations:
- C-ICE-050.03.003; Auxiliary Feedwater Low Pressure Suction Setpoint; Revision 1

1R18 Permanent Plant Modifications

Procedures:
- 03-9060724; Davis-Besse Reactor Vessel Head Reinstallation; Revision1
- DB-MM-6002; Polar Crane Operation; Revision 14

Work Orders:
- Notification 600609031; Alternate Reactor Vessel Head for the Storage/Work Location
- Notification 600612328; Address Shock Loading of Polar Crane

Drawings:
- C-129; Containment Internal Structures, El. 603'-0", Sheet 1; Revision 8
- C-130; Containment Internal Structures, El. 603'-0", Sheet 2; Revision 8

Calculations:
- VC07/B001-008; Structural Steel El. 603'-0" and 606'-0"; Revision 6

Other:
- USAR Sections 5.4.1 and 5.4.2, Reactor Vessel and Appurtenances
- USAR Section 9.1.4.2.3, Loading and Removing Fuel

1R19 Post Maintenance Testing

Condition Reports:
- 03-00949; EDG 1-1 Performance Does Not Meet USAR Requirements
- 10-75006; Design Engineering Review/Evaluate Test Data for DB-PF-3438 Performed April 7, 2010
- 10-75229; Temperature Indication for T467 MP58-2 IB Bearing Temperature Swinging
- 10-75230; HPI2 Baseline Test, Motor Data Greater than 100% Full Load Amps
- 10-75236; Design Engineering Evaluation of HPI Pump 2 Hydraulic Data
- 10-75283; Design Engineering Evaluation of LPI Pump 2 Baseline Data
- 10-78792; Pressurizer Code Safety Valve Drain Connection Leaks-BACC Inspection
- 10-78882; RCP 1-2 Inspection Cover Missing 10 of 12 Retaining Bolts Noted at NOP/NOT
- 10-78903; 16RFO BACC: Pipe Cap Leak at CF49
- 10-78922; 16RFO Under Vessel VT-2 Inspection
- 10-78926; Discovered a Small Leak Downstream of the RC4610B High Point Vents
- 10-78949; Indicated Safety Valve Leakage to Quench Tank
- 10-78962; RC-18A1C Had an Active leak at the Stuffing Box About 4-5 Drops per Minute
- 10-75894; Unexpected Lower Operation of EDG Governor During Emergency Operation

Procedures:
- DB-OP-6301; Generator and Exciter Operating Procedure; Revision 22
- DB-OP-6316; Diesel Generator Operating Procedure; Revision 45
- DB-PF-3010; RCS Leakage Test; Revision 10
- DB-PF-3083; HPI Pump 2 Baseline Test; Revision 2
- DB-PF-3237; Decay Heat Pump 2 Baseline Test; Revision 7
- DB-PF-3438; Containment Spray Pump 2 Baseline Test; Revision 3
- DB-SP-3444; SFRCS Channel 1 Trip of MS100 and MS101; Revision 9
- DB-SS-4163; Main Turbine Overspeed Trip Test; Revision 7
- EN-DP-1501; Boric Acid Corrosion Control Inspections; Revision 12

Work Orders:
- 200312394; MS101 and FV101 – Replace East MS line1 Valve
- 200317632; SP34444-001 05.000 Channel 1
- 200414451; ECP 02-0738-02 EDG 1-2

Other:
- ECP 02-0738-002; Woodward Governor Replacement for EDG 1-2; Revision 04
- MS101-011; Main Steam Line 1 Isolation AOV Setup Control Sheet; June 2010
- Tech Spec Bases B 3.8.1
- Tech Spec Bases B 3.8.2
- USAR Section 8.3.1.1.4

1R20 Outage Activities

Other:
- Security Quarterly Work Hour Review; April 29, 2010
- Operation Quarterly Work Hour Review; April 28, 2010
- Notification 600505453; Evaluation for Leaving Temporary Power Cables Inside Containment

1R22 Surveillance Testing

Condition Reports:
- 10-77373; K5-2 Surveillance Testing Missed Data Capture
- 10-78602; Active Leakage Observed on Valve DH9A Guard Pipe in Containment Emergency Sump
- 10-78605; Masking Tape Found on Incore Guide Tube During DB-SP-03134
- 10-78690; DB-OP-03013 Closeout Inspection Outstanding Issues
- 10-78738; NRC-Identified Debris and Conditions in Containment
- 10-78813; Containment Debris
- 10-78814; Fire Extinguisher Labels in Containment

Procedures:
- DBBP-DBTS-0002; Use of Leak Rate Monitor Test Equipment; Revision 2
- DB-ME-3046; D1 Bus Under Voltage Units Monthly Functional Test; Revision 21
- DB-PF-03008; Containment Local Leakage Rate Tests Revision 14
- DB-SC-3071; Emergency Diesel Generator 2 Monthly Test; Revision 22
- DB-SC-3077; Emergency Diesel Generator 2 184 Day Test; Revision 20
- DB-SP-3134; Containment Emergency Sump Visual Inspection; Revision 5
- DB-SP-3337; Containment Spray Train 1 Quarterly Pump and Valve Test; Revision 20
- EN-DP-1507; Containment Walkdown for Potential Sump Screen Debris Sources; Revision 2
- EN-DP-1508; Containment Protective Coatings Condition Assessment Inspections; Revision 1
- NG-DB-212; Containment Storage; Revision 4

Work Orders:
- 200317452; CTMT Vessel LLRT-Penetration 33
- 200317453; CTMT Vessel LLRT-Penetration 33

Other:
- Tech Spec Bases B.3.3.8
- Tech Spec Bases B 3.8.1
- Tech Spec Bases B 3.8.2
- USAR Section 8.3.1.1
- USAR Section 8.3.1.1.4

1EP2 Alert and Notification System Evaluation (71114.02)

Condition Reports:
- 08-51270; Siren 205 Indicated Rotational Failure during Weekly Test; dated December 23, 2008
- 10-69658; EPZ Siren 201 Rotation Sensor Failure; dated January 6, 2010

Procedures:
- DB-EP-028-07; 2009 Prompt Notification System (PNS) Siren Annual Maintenance Report; dated December 18, 2009
- DB-EP-023-02; Siren Monthly Malfunction Maintenance Records; February 2008 through March 2010

1EP3 Emergency Response Organization Augmentation Testing (71114.03)

Condition Reports:
- 10-76656; 2010 Emergency Preparedness NRC Inspection Question on SCBA Qualifications; dated May 7, 2010

Procedures:
- RA-EP-02861; Radiological Incidents; Revision 4
- RA-EP-00100; Emergency Plan Training Program; Revision 16
- RA-EP-00510; Maintenance of Emergency Plan Telephone Directory; Revision 3
- RA-EP-00520; Emergency Response Organization; Revision 5
- RA-EP-04001; Station Alarm Test; Revision 5
- RA-EP-04002; Communication System Quarterly Test; Revision 5
- RA-EP-04003; Computerized Automated Notification System Weekly Test; Revision 5
- RA-EP-04010; Emergency Facilities Communication Quarterly Test; Revision 4
- NOP-OP-4301; Respiratory Protection Program; Revision 1
- DB-HP-01306; Respirator Issue and Control; Revision 5

Other:
- Davis-Besse Nuclear Power Station Emergency Plan, Revision 27
- Davis-Besse Emergency Plan Telephone Directory; dated February 4, 2010
- Davis-Besse Selected Emergency Response Personnel Training Records
- DB-SA-10-012; Snapshot Assessment Staff Augmentation Drill; dated February 8, 2010
- DB-SA-09-028; Snapshot Self-Assessment Report; Staff Augmentation Drill; January 21, 2010
- DB-SA-10-012; Snapshot Self-Assessment Report; Staff Augmentation Drill; March 10, 2009
- DB-SA-09-055; Snapshot Self-Assessment Report; Staff Augmentation Drill; August 24, 2009
- DB-SA-08-083; Snapshot Self-Assessment Report; Staff Augmentation Drill; August 11, 2008
- Davis-Besse Nuclear Power Station Off-site Agencies Correspondence and Training Records; dated 2008 and 2009

1EP4 Emergency Action Level and Emergency Plan Changes (71114.04)

Procedures:
- RA-EP-01500; Emergency Classification; Revision 12
- DBRM-EMER- 1500A; Davis-Besse Emergency Action Level Basis Document; Revision 1
- RA-EP-02810; Tornado; Revision 8
- RA-EP-02720; Recovery Organization; Revision 10
- RA-EP-02840; Explosion; Revision 4

Other:
- 10 CFR 50.54(q) Change Package; DB2010-006-00; RA-EP-01500; Emergency Classification; Revision 12
- 10 CFR 50.54(q) Change Package; DBRM-EMER- 1500A; Davis-Besse Emergency Action Level Basis Document; Revision 1
- 10 CFR 50.54(q) Change Package; DB2010-1-00; RA-EP-02810; Tornado; Revision 8
- 10 CFR 50.54(q) Change Package; DB2010-009-00; RA-EP-02720; Recovery Organization; Revision 10
- 10 CFR 50.54(q) Change Package; RA-EP-02840; Explosion; Revision 4

1EP5 Correction of Emergency Preparedness Weaknesses and Deficiencies (71114.05)

Condition Reports:
- 08-4143-232; DBAB Power Structure Distribution 13.8 kV Air Switch Transformer and MCC; dated June 4, 2008
- 08-42002; EP Drill – Missed Drill Objective for Emergency Classification; dated June 17, 2008
- 08-42343; Dose Assessment Differences Noted between Software and Contractor Hand Calculations; dated June 25, 2008
- 09-53277; Containment High Range Radiation Monitor Function and Current EALS; dated February 9, 2009
- 09-53278; Containment High Range Radiation Monitor Function and NEI 99-01 EAL Submittal; dated February 9, 2009
- 09-56478; EP Drill – DB-PA-09-01, Procedure Violation during Source Checks in RTL; dated March 19, 2009
- 09-65326; NRC PI for Drill/Exercise Performance in Action Region; dated October 1, 2009
- 09-65851; DB-PA-09-04; Cold Shutdown Reactivity Value Incorrect in EAL Basis Document; dated October 13, 2009
- 09-55767; EP Drill – Missed NRC Performance Indicator Opportunity; dated March 19, 2010

Procedures:
- MS-C-09-11-24; Fleet Oversight Audit Report; dated December 18, 2009
- MS-C-08-12-24; Fleet Oversight Audit Report; dated January 23, 2009
- DB-SA-09-024; Snap-Shot Assessment of Davis-Besse Emergency Preparedness Exercise and Performance Indicator NRC Inspection; dated May 19, 2009
- DB-SA-09-033; March 19, 2009 Integrated Drill Self-Assessment; dated May 21, 2009
- DB-SA-09-037; May 12 Self-Assessment Evaluated Exercise; dated July 11, 2009

Other:
- Oversight Assessment of FENOC/Davis-Besse Emergency Preparedness Interface with State and Local Governments; dated October/November 2009
- FENOC/Davis-Besse Interface with State and Local Governments Agencies; dated November 2008

1EP6 Drill Evaluation

Condition Reports:
- 10-77263; EP Drill – Missed DEP Opportunity For PAR Upgrade
- 10-77295; EP Drill – Procedure Not Used During Protective Action Recommendations
- 10-77646; Initial Notification Form Accuracy Evaluation

Procedures:
- RA-EP-1500; Emergency Classification; Revision 12

Other:
- Davis-Besse Emergency Preparedness Integrated Drill Manual; May 20, 2010
- NEI 99-02; Regulatory Assessment Performance Indicator Guideline; Revision 6

4OA1 Performance Indicator Verification

Other:
- Select Operator Logs covering the period of April 2009 through March 2010
- NEI 99-02; Regulatory Assessment Performance Indicator Guideline; Revision 6
- Form NOBP-LP-4012-44; Initiating Events Cornerstone Indicators; Forms for April 2009 through March 2010
- NOBP-LP-4012-56; Alert and Notification System Reliability; $1^{st}$ Quarter 2009 through $4^{th}$ Quarter 2009
- NOBP-LP-4012-54; Drill/Exercise Performance; $1^{st}$ Quarter 2009 through $4^{th}$ Quarter 2009
- NOBP-LP-4012-55; ERO Drill Participation; $1^{st}$ Quarter 2009 through $4^{th}$ Quarter 2009

4OA2 Problem Identification and Resolution

Condition Reports:
- 10-70289; Increasing Trend in Maintenance Human Performance Error Rate
- 10-70425; DB-IPAT-09-050, 2009 $2^{nd}$ Semi-Annual – Chemistry; New Trend Procedure Quality
- 10-70426; DB-IPAT-09-050, 2009 $2^{nd}$ Semi-Annual – Chemistry; New Trend FME Control
- 10-71041; DB-IPAT-09-065 $2^{nd}$ Half 2009 Adverse Trend WM Process Milestone Performance
- 10-72935; Finding: DB-PA-10-01; Inadequate Investigation/Documentation of Rad Events
- 10-73019; Finding: DB-PA-10-01; Shortfalls in Oversight of Contractor Maint. During 16R
- 10-73295; Trend and Evaluate Collective PCES (Personnel Contamination Events) to Date
- 10-73642; DB-PA-10-1 16RFO Schedule Improvement Opportunities
- 10-75144; Trend and Evaluate Dose Alarms and Dose Rate Alarms From 16RFO
- 10-75325; DB-PA-10-01; Radiation Protection Performance Declining Trend-DBRP
- 10-76028; IPAT $1^{st}$ Quarter 2010-DBTS Adverse Trend for Procedure Compliance

Other:
- Safety Culture Assessment Summary Report, December 2009
- IPAT/Self-Assessment DB-IPAT-09-066
- IPAT/Self-Assessment IP-SA-10-156
- IPAT/Self-Assessment IP-SA-10-157
- Fleet Oversight Audit Report MS-C-10-03-01
- FENOC, Davis-Besse Nuclear Power Station Fleet Oversight, First Quarter 2010 (January 1 through April 30, 2010)
- FENOC, Davis-Besse Nuclear Power Station Fleet Oversight, Fourth Quarter 2009 (October 1 through December 31, 2009)

- Integrated Performance Assessment and Trending, Number NOBP-LP-2018
- Fleet Oversight Site Brief, 1st Quarter 2010

4OA3  Follow-Up of Events and Notices of Enforcement Discretion

Condition Reports:
- 10-73117; DBRM-RC-0001 Overly Conservative For Reporting Current Conditions
- 10-73067; SFRCS Channels Re-energizing in a Blocked Condition Upon a Loss of Off-site Power
- 10-79651; Failure to Notify NRC of Unanalyzed Condition in 8 Hours

Work Orders:
- 200317575; Integrated SFAS Actuation Channel 2
- 200409428; SFRCS Logic Channel 1 ECP 10-0124-001
- 200409429; SFRCS Logic Channel 2 ECP 10-0124-002
- 200409434; SFRCS Logic Channel 3 ECP 10-0124-003
- 200409440; SFRCS Logic Channel 4 ECP 10-0124-004
- 200409446; SFRCS Spare Logic Module ECP 10-0124-005
- 600606074; Change DB-SC-03261 – 17 RFO
- 600606075; Change DB-SC-03262 – 17 RFO
- 600606489; Change DB-MI-03211&2 for ECP 10-0124

Other:
- Licensee Event Report 2010-001; Steam and Feedwater Rupture Control System Re-energizes in a Blocked Condition Upon a Loss of Offsite Power; Revision 0
- ECP 10-0124; Modify SFRCS Logic to Ensure Known State after Power-On-Reset; Revision 0

4OA5  Other Activities

Condition Reports:
- 09-69039; MS-C-09-10-18 Finding 10 CFR 26 Work Hour Rule Violation, Compliance, TTC Issues
- 09-60928; Unknowingly violated the “34-hour minimum break within any 216-hour period”
- 10-70282; Fatigue Rule/Work Hour Control Violation

Procedures:
- NOP-LP-401; FENOC Work Hour Control; Revision 3;
- MS-C-09-10-18; Fleet Oversight Audit Report
- SS-FATIGUERULE-FEN; Training Presentation “Managing Fatigue”

Other:
- MS-C-09-10-18; Fleet Oversight Audit Report
- SS-FATIGUERULE-FEN; Training Presentation “Managing Fatigue”

## LIST OF ACRONYMS USED

| | |
|---|---|
| ADAMS | Agencywide Document Access Management System |
| AFW | Auxiliary Feed Water |
| ANS | Alert and Notification System |
| ASME | American Society of Mechanical Engineers |
| CAP | Corrective Action Program |
| CDF | Core Damage Frequency |
| CFR | Code of Federal Regulations |
| CR | Condition Report |
| DRP | Division of Reactor Projects |
| EP | Emergency Preparedness |
| ERO | Emergency Response Organization |
| IMC | Inspection Manual Chapter |
| IP | Inspection Procedure |
| IPEEE | Individual Plant Examination of External Events |
| IR | Inspection Report |
| LCO | Limiting Condition for Operation |
| LER | Licensee Event Report |
| LOOP | Loss of Offsite Power |
| MSIV | Main Steam Isolation Valve |
| NCV | Non-Cited Violation |
| NEI | Nuclear Energy Institute |
| NRC | U.S. Nuclear Regulatory Commission |
| OSP | Outage Safety Plan |
| PARS | Publicly Available Records System |
| PI | Performance Indicator |
| PI&R | Problem Identification and Resolution |
| PM | Post Maintenance |
| RCS | Reactor Coolant System |
| RFO | Refueling Outage |
| SDP | Significance Determination Process |
| SFRCS | Steam and Feedwater Rupture Control System |
| SG | Steam Generator |
| SRA | Senior Reactor Analyst |
| SSC | Structures, Systems, and Components |
| TI | Temporary Instruction |
| TS | Technical Specification |
| UFSAR | Updated Final Safety Analysis Report |
| URI | Unresolved Item |
| USAR | Updated Safety Analysis Report |
| VDC | Voltage Direct Current |
| WO | Work Order |

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Sincerely,

**/RA/**

Jamnes L. Cameron Chief
Branch 6
Division of Reactor Projects

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SUBJECT: DAVIS-BESSE NUCLEAR POWER STATION INTEGRATED INSPECTION REPORT 05000346/2010-003

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